

MS

K. J. Somaiya Institute of Technology, Sion, Mumbai-22
(Autonomous College Affiliated to University of Mumbai)

Nov – Dec 2025		
Program: B. Tech Scheme III III B & T		
Regular Examination: LY Semester: VII		
Course Code: HAIMLC701 and Course Name: AI&ML in Healthcare		
Date of Exam: 21/11/2025	Duration: 02.5 Hours	Max. Marks: 60

Instructions:

- (1) All questions are compulsory.
- (2) Draw neat diagrams wherever applicable.
- (3) Assume suitable data, if necessary.

Q. No.	Question	Max. Marks	CO	BT level
Q 1	Solve any two questions out of three: (05 marks each)	10		
a)	Explain any two applications of AI in healthcare with suitable examples.		CO1	U
b)	Explain the need for research in the fields of data mining and knowledge discovery.		CO2	U
c)	Explain Model development and its work flow with diagram.		CO3	U
Q 2	Solve any two questions out of three: (05 marks each)	10		
a)	Explain Development Tools and Frameworks in Clinical NLP.		CO4	U
b)	Explain Intelligent personal Health Record.		CO5	U
c)	Explain the concept of evidence hierarchy.		CO6	U
Q.3	Solve any two questions out of three. (10 marks each)	20		
a)	Explain Multi-classifier Decision Fusion and Ensemble Learning and how these techniques can be applied for real-time medical diagnosis.		CO2	Ap
b)	Which tuning method is most appropriate for large medical datasets and justify your answer with application-based reasoning.		CO3	Ap
c)	Explain Low level and High level NLP components in AIML Healthcare.		CO4	U
Q.4	Solve any two questions out of three. (10 marks each)	20		
a)	Explain how Natural Language Processing (NLP) is applied in the analysis of Electronic Health Records.		CO4	U
b)	Define and explain the structure of multi-population evolutionary algorithm models.		CO2	U
c)	Explain EBM concept with appropriate diagram.		CO6	Ap